QUESTION BANK
1. INTRODUCTION TO DIFFERENCE BETWEEN AEROBIC AND AEROBIC RESPIRATION

CASE STUDY

Refer For Q1 to Q3 The phenomenon by which O_2 is absorbed and CO_2 is liberated from the living organisms has been defined as respiration Oxygen reacts with the food molecules present in the body cells and burns them slowly to release energy .

1. Respiration is the process in which
(A) Energy is stored in the form of ADP
(B) Energy is stored and released in the form of ATP
(C) Energy is not released at all
(D) Energy is used up

2. Respiration is a/an _______________ process
(A) Anabolic + exergonic (B) Catabolic + exergonic
(C) Catabolic + endergonic (D) Anabolic + endergonic

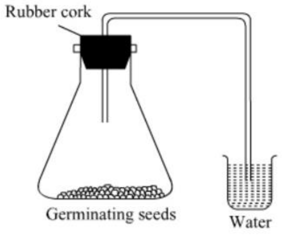
3. Glycolysis occurs in the ______ , and produces ______, which in the presence of O_2 enters the ____
(A) Cytosol, pyruvate, mitochondrion (B) Cytosol, glucose, mitochondrion
(C) Chloroplast, glucose, cytosol (D) Mitochondrion, pyruvate, chloroplast

4. In an anaerobic condition , yeast cells breakdown the glucose into
(A) $CO_2 + H_2O$ (B) C_2H_5OH and CO_2
(C) CO_2 + Lactic acid (D) CO_2 + Pyruvate

5. In the experiment to show that CO_2 is given out during respiration by germinating seeds , the student uses
(A) Lime water to absorb CO_2 produced during germination
(B) Alcohol to dissolve O_2
(C) KOH solution to absorb CO_2 produced during germination
(D) Iodine solution to test starch produced during respiration

ANALYTICAL TYPE

1. The experimental set up shown here to demonstrate that CO_2 is given out during respiration , did not yield expected results because



(A) The flask was not air tight
(B) There was no KOH in the test tube in the flask
(C) The delivery tube was dipped in water
(D) The germinating seeds were not immersed in water

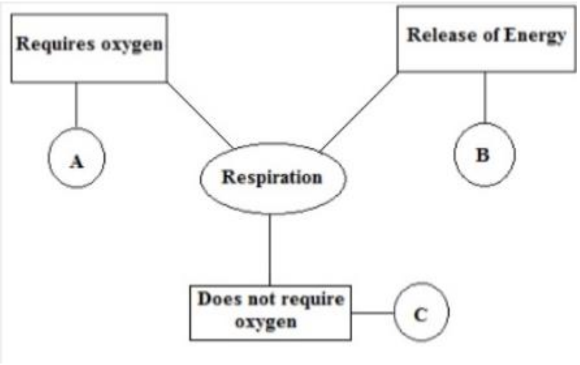
2. Which of the following statement is / are correct ?
a. Pyruvate can be converted into ethanol and CO2 by yeast
b. Fermentation takes place in aerobic bacteria
c. Fermentation takes place in mitochondria
d. Fermentation is a form of anaerobic respiration
(A) a and c (B) b and d (C) a and d (D) b and c

3. For bacteria to continue growing rapidly when they are shifted from an environment containing oxygen to an anaerobic environment , they must
(A) produce more ATP per mole of glucose during glycolysis
(B) produce ATP during oxidation of glucose
(C) increase the rate of glycolysis
(D) increase the rate of reaction in mitochondria to produce more ATP

4. The common phase between aerobic and anaerobic respiration is called
(A) Kreb cycle (B) Dark reaction (C) Glycolysis (D) Fermentation

5. Three carbon byproduct formed during Anaerobic reaction in muscle is
(A) Lactic acid (B) Acetic acid (C) Ethanol (D) Methanol

6. Refer the figure and choose the incorrect option



(A) Complete oxidation of food occurs in A
(B) C is associated with both Alcohol and lactic acid production
(C) B takes place inside the cell
(D) B takes place in presence of oxygen only

ASSERTION AND REASON TYPE

In the following questions a statement of assertion is followed by a statement of reason .
(A) Both assertion and reason are true and the reason is correct explanation of the assertion
(B) Both assertion and reason are true but the reason is not the correct explanation of the assertion
(C) Assertion is true but reason is false
(D) Assertion and reason are false
(E) Assertion is false but reason is true

1. Assertion : glycolysis occurs in cytoplasm
Reason : enzymes for glycolysis are found in cytoplasm . it is common for aerobic and anerobic respiration

2. Assertion : glycolysis is the first step of respiration in which glucose completely breaks into CO2 and H20
Reason : in this process there is net gain of 24 ATP

3. Assertion : human muscle cells makes ATP by lactic acid fermentation , when oxygen is scarce
Reason : this occurs at the time of vigorous exercise , when the demand of oxygen greater than its supply

4. Assertion : in an experiment to demonstrate that yeast produces CO2 by fermentation of sugar , lime water turns milky
Reason : Fermentation of sugar results in the production of ethyl alcohol and 02

5. Assertion : aerobic respiration is far more efficient as compared to anaerobic respiration
Reason : aerobic respiration occurs in presence of oxygen .